

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (canceled).
 2. (currently amended): A liquid ejector comprising:
 - a liquid ejection head including a nozzle for ejecting a liquid;
 - a cap device for sealing the liquid ejection head;
 - a gear pump, connected to the cap device, for generating negative pressure and discharging fluid out of the liquid ejection head with the negative pressure in a state in which the cap device seals the liquid ejection head, wherein the liquid ejector:
 - suctions fluid from the cap device with the gear pump so that a suction amount of the fluid per unit time becomes equal to a first suction amount in order to discharge fluid from the nozzle; and
 - continuously afterwards, suction fluid from the cap device by changing the suction amount of the fluid per unit time from the first suction amount to a smaller second suction amount[[.]],
- wherein the gear pump is driven at a first rotation speed so that the fluid in the cap device is suctioned in the first suction amount, and continuously afterwards, driven at a second rotation speed, which is lower than the first rotation speed, so that the fluid in the cap device is suctioned in the second suction amount.

3. (currently amended): A liquid ejector comprising:
a liquid ejection head including a nozzle for ejecting a liquid;
a cap device for sealing the liquid ejection head;
a gear pump, connected to the cap device, for generating negative pressure and
discharging fluid out of the liquid ejection head with the negative pressure in a state in which the
cap device seals the liquid ejection head, wherein the liquid ejector:
suctions fluid from the cap device with the gear pump so that a suction amount of the
fluid per unit time becomes equal to a first suction amount in order to discharge fluid from the
nozzle; and
continuously afterwards, suction fluid from the cap device by changing the suction
amount of the fluid per unit time from the first suction amount to a smaller second suction
amount,
~~The liquid ejector according to claim 2,~~
wherein the gear pump is driven so that the suction amount per unit time becomes equal
to the first suction amount in order to discharge fluid from the nozzle, and continuously
afterwards, is driven so that the suction amount per unit time becomes equal to the second
suction amount per unit time, and then stops[[.]],
the liquid ejector further comprising:
a detector for detecting an increase and decrease in load of the gear pump caused by a
flow of fluid into the gear pump and a flow of fluid out of the gear pump;
wherein the gear pump changes the suction amount per unit time from the first suction
amount to the second suction amount after the detector detects an increase in the load of the gear
pump.

4. (canceled).

5. (currently amended): A liquid ejector comprising:
a liquid ejection head including a nozzle for ejecting a liquid;
a cap device for sealing the liquid ejection head;
a gear pump, connected to the cap device, for generating negative pressure and
discharging fluid out of the liquid ejection head with the negative pressure in a state in which the
cap device seals the liquid ejection head, wherein the liquid ejector:
suctions fluid from the cap device with the gear pump so that a suction amount of the
fluid per unit time becomes equal to a first suction amount in order to discharge fluid from the
nozzle; and
continuously afterwards, suction fluid from the cap device by changing the suction
amount of the fluid per unit time from the first suction amount to a smaller second suction
amount.
~~The liquid ejector according to claim 2,~~
wherein the gear pump includes a housing and two gears accommodated in the
housing[[.]],
the liquid ejector further comprising;
a detector for detecting an increase and decrease in load of the gear pump caused by a
flow of fluid into the gear pump and a flow of fluid out of the gear pump;

wherein the gear pump changes the suction amount per unit time from the first suction amount to the second suction amount after the detector detects an increase in the load of the gear pump.

6. (currently amended): A liquid ejector comprising:
a liquid ejection head including a nozzle for ejecting a liquid;
a cap device for sealing the liquid ejection head;
a gear pump, connected to the cap device, for generating negative pressure and
discharging fluid out of the liquid ejection head with the negative pressure in a state in which the
cap device seals the liquid ejection head, wherein the liquid ejector:
suctions fluid from the cap device with the gear pump so that a suction amount of the
fluid per unit time becomes equal to a first suction amount in order to discharge fluid from the
nozzle; and
continuously afterwards, suction fluid from the cap device by changing the suction
amount of the fluid per unit time from the first suction amount to a smaller second suction
amount,

~~The liquid ejector according to claims 2,~~ the liquid ejector further comprising:
a detector for detecting an increase and decrease in load of the gear pump caused by a
flow of fluid into the gear pump and a flow of fluid out of the gear pump;

wherein the gear pump changes the suction amount per unit time from the first suction amount to the second suction amount after the detector detects an increase in the load of the gear pump.

7. (previously presented): The liquid ejector according to claim 2, further comprising:

a flow passage for guiding liquid to the nozzle; and

a valve device arranged upstream from the nozzle in the flow passage;

wherein the valve device includes a pressure chamber, for storing liquid, and a flexible member, displaced in accordance with a pressure difference between an interior and exterior of the pressure chamber, and the valve device opens and closes based on the displacement of the flexible member.

8. (canceled).

9. (currently amended): A liquid ejector comprising:

a liquid ejection head including a nozzle for ejecting a liquid;

a cap device for sealing the liquid ejection head;

a gear pump, connected to the cap device, for generating negative pressure and discharging fluid out of the liquid ejection head with the negative pressure in a state in which the cap device seals the liquid ejection head, wherein the liquid ejector:

suctions fluid from the cap device with the gear pump so that a suction amount of the fluid per unit time becomes equal to a first suction amount in order to discharge fluid from the nozzle; and

continuously afterwards, suction fluid from the cap device by changing the suction amount of the fluid per unit time from the first suction amount to a smaller second suction amount,

wherein the gear pump is driven so that the suction amount per unit time becomes equal to the first suction amount in order to discharge fluid from the nozzle, and continuously afterwards, is driven so that the suction amount per unit time becomes equal to the second suction amount per unit time, and then stops,

~~The liquid ejector according to claim 3,~~

wherein the gear pump includes a housing and two gears accommodated in the housing[[]],

the liquid ejector further comprising:

a detector for detecting an increase and decrease in load of the gear pump caused by a flow of fluid into the gear pump and a flow of fluid out of the gear pump;

wherein the gear pump changes the suction amount per unit time from the first suction amount to the second suction amount after the detector detects an increase in the load of the gear pump.

10. (currently amended): The liquid ejector according to ~~claim 4~~ claim 2, wherein the gear pump includes a housing and two gears accommodated in the housing.

11. (canceled).

12. (currently amended): The liquid ejector according to ~~claim 4~~ claim 2, further comprising:

a detector for detecting an increase and decrease in load of the gear pump caused by a flow of fluid into the gear pump and a flow of fluid out of the gear pump;

wherein the gear pump changes the suction amount per unit time from the first suction amount to the second suction amount after the detector detects an increase in the load of the gear pump.

13. (canceled).

14. (previously presented): The liquid ejector according to claim 3, further comprising:

a flow passage for guiding liquid to the nozzle; and

a valve device arranged upstream from the nozzle in the flow passage;

wherein the valve device includes a pressure chamber, for storing liquid, and a flexible member, displaced in accordance with a pressure difference between an interior and exterior of the pressure chamber, and the valve device opens and closes based on the displacement of the flexible member.

15. (canceled).

16. (previously presented): The liquid ejector according to claim 5, further comprising:

a flow passage for guiding liquid to the nozzle; and

a valve device arranged upstream from the nozzle in the flow passage;

wherein the valve device includes a pressure chamber, for storing liquid, and a flexible member, displaced in accordance with a pressure difference between an interior and exterior of the pressure chamber, and the valve device opens and closes based on the displacement of the flexible member.

17. (previously presented): The liquid ejector according to claim 6, further comprising:

a flow passage for guiding liquid to the nozzle; and

a valve device arranged upstream from the nozzle in the flow passage;

wherein the valve device includes a pressure chamber, for storing liquid, and a flexible member, displaced in accordance with a pressure difference between an interior and exterior of the pressure chamber, and the valve device opens and closes based on the displacement of the flexible member.

18. (canceled).

19. (previously presented): The liquid ejector according to claim 10, further comprising:

a detector for detecting an increase and decrease in load of the gear pump caused by a flow of fluid into the gear pump and a flow of fluid out of the gear pump;

wherein the gear pump changes the suction amount per unit time from the first suction amount to the second suction amount after the detector detects an increase in the load of the gear pump.

20. (previously presented): The liquid ejector according to 9, further comprising:
- a flow passage for guiding liquid to the nozzle; and
 - a valve device arranged upstream from the nozzle in the flow passage;
- wherein the valve device includes a pressure chamber, for storing liquid, and a flexible member, displaced in accordance with a pressure difference between an interior and exterior of the pressure chamber, and the valve device opens and closes based on the displacement of the flexible member.